

DATA VERIFICATION REPORT

Eisenbarth Well Pad Emergency Response

This report presents a data verification for the analytical report of the initial samples collected from the Eisenbarth Well Pad Emergency Response site in Clarington, Ohio, on 28 and 29 June 2014 by Tetra Tech START personnel. These included four water samples, one air sample, and one aqueous quality control (QC) sample, a trip blank. The samples were sent to the ALS Environmental facility in Cincinnati, Ohio. ALS designated them as sample delivery group (SDG) No. 1406874 and analyzed them by various U.S. Environmental Protection Agency (EPA) methods. The following sections discuss each analysis in turn, with emphasis on any apparent problems. The final section provides an overall evaluation of the results. ALS' reported analytical results are included following this report.

1.0 Volatile Organic Compounds

The four water samples and the trip blank were analyzed for volatile organic compounds (VOC) by EPA SW-846 Method 8260B. There were no irregularities with the laboratory blanks, the laboratory control samples (LCS), and surrogate recoveries. The trip blank yielded a low concentration of chloroform, perhaps due to the use of potable water (containing trihalomethanes) for preparation. Neither chloroform nor other trihalomethanes were detected in the field samples so no qualifications were applied. One matrix spike/matrix spike duplicate (MS/MSD) analysis yielded high variation between the MS and MSD recoveries. The parent sample was from another site so no qualifications were applied. Note that samples WTR-01 and WTR-04 were analyzed at 10-fold dilutions to bring their high concentrations of acetone and other VOC within calibration range. Therefore detection limits for all analytes are correspondingly increased.

2.0 Semivolatile Organic Compounds

The four water samples were analyzed for semivolatile organic compounds (SVOC) by EPA SW-846 Method 8270C. There were no problems with the blank and LCS analyses and surrogate recoveries. No MS/MSD analyses were included; no qualifications were applied for this data gap. The only irregularities were due to the nature of the samples themselves. ALS noted that two samples had internal

standard recoveries outside of QC limits. However, the samples did have surrogate recoveries within their QC ranges, indicating that the matrix interference did not significantly affect quantitation. During sample preparation, three samples (WTR-01, WTR-02, and WTR-03) formed emulsions; the laboratory broke these and successfully analyzed the samples. Sample WTR-01 was analyzed at a 10-fold dilution due to its high organic content, which raised detection limits and may have masked low concentrations of some analytes.

3.0 Total Petroleum Hydrocarbons

Sample WTR-04 was analyzed for total petroleum hydrocarbons by EPA SW-846 Method 8015. ALS used three standards for this analysis: gasoline range organics (GRO), diesel range organics (DRO), and lubricating oil range organics (ORO), and found detectable results for all three. They noted that the DRO pattern did not match their standard, which is likely due to overlap of components from non-diesel products. There were no problems with blanks, LCS, MS/MSD analyses, and surrogate recoveries. No qualifications were applied.

4.0 Air Analysis

The air sample was analyzed for VOC by EPA Method TO-15. There were no irregularities with the laboratory blank, LCS, and surrogate recoveries. Note that MS/MSD analyses are not practical for air samples. The sample was re-analyzed at a 10-fold dilution and the higher concentration analytes were reported from that re-analysis. No qualifications were applied.

5.0 Overall Evaluation

The analyses went well, with no significant problems requiring data qualification. The nature of some of the samples (relatively high organic contamination, and the nature of that contamination) did cause some problems in sample handling, but ALS coped with these and produced the requested results. All results may be used, as reported, for any purpose.